

WHAT IS CLAIMED IS:

1. A coupling structure of a signal converting apparatus comprising:

a frame having at least two coupling protrusions horizontally formed at the outer
5 circumference thereof;

a coupling member for coupling the signal converting apparatus; and

a cylindrical coupling body being formed at an upper face of the coupling member
and having horizontal and vertical coupling grooves in a certain shape to correspond to the
coupling protrusions,

10 wherein the coupling protrusions are inserted into the cylindrical coupling body of the
coupling member and is rotated by a selected angle and is latched on the horizontal and
vertical coupling grooves of the cylindrical coupling body such that the coupling member is
integrally coupled to the signal converting apparatus.

15 2. The coupling structure of the signal converting apparatus of claim 1, wherein the
coupling protrusion is formed during the molding of the frame by molding a part of the frame
to be protruded wider than the outer circumference of the frame.

20 3. The coupling structure of the signal converting apparatus of claim 1, wherein the
coupling protrusion is formed by molding the frame integrally with an extended end of a
spring in the signal converting apparatus, wherein the extended end of a spring is extended
from the outer surface of the spring to be longer than the outer diameter of the frame and is
exposed out of the outer circumference of the frame.

25 4. The coupling structure of the signal converting apparatus of claim 1, wherein the
width of the vertical coupling groove of the cylindrical coupling body is greater than the
width of the coupling protrusion.

5 5. The coupling structure of the signal converting apparatus of claim 1, further comprising a double-sided tape attached on an upper side of coupling member and/or a lower side of the signal converting apparatus, for fixing the coupling member to the signal converting apparatus.

10 6. The coupling structure of the signal converting apparatus of claim 1, wherein the frame comprises a grill coupled to a lower side thereof and made by an injection molding wherein the frame is coupled to the grill by an ultrasonic wave welding.

15 7. A coupling structure of a signal converting apparatus comprising:
a frame having at least two coupling protrusions vertically formed at the outer circumference of the frame such that the coupling protrusions are directed toward an upper portion or a lower portion of the signal converting apparatus, the coupling protrusion having a latching jaw formed at one end of the coupling protrusion; and

a coupling member having a coupling hole perforated to correspond to the coupling protrusion for coupling the signal converting apparatus,

20 wherein the coupling protrusion is inserted into the coupling hole and is rotated by a selected angle to latch the latching jaw on the coupling member such that the coupling member is integrally coupled to the signal converting apparatus.

25 8. The coupling structure of the signal converting apparatus of claim 7, wherein the latching jaw is horizontally formed to be directed toward a rotational direction of the signal converting apparatus.

9. The coupling structure of the signal converting apparatus of claim 7, wherein the

latching jaw is horizontally formed to be directed toward the center of the signal converting apparatus.

10. The coupling structure of the signal converting apparatus of claim 7, wherein the
5 latching jaw comprises a fixing jaw formed at a lower face of the latching jaw and the
coupling member comprises a fixing hole, wherein the fixing jaw is coupled to the fixing hole
to prevent the signal converting apparatus fixed to the coupling member from swaying.